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ABSTRACT

This study investigated factors encouraging or deterring paraprofessionals from pursuing teaching credentials, examining professional characteristics (years of experience, dual language skills, and attitudes toward the profession); personal characteristics (sex, age, marital status, offspring, and race); and access factors (perceived obstacles, provision of financial aid, and the CBEST). The study involved a secondary analysis of data from a 1992 survey for the Latino Teacher Project of the University of Southern California. Over 5,000 paraprofessionals in the Los Angeles Unified School District participated. Few paraprofessionals aspired to become teachers. Males age 26 years and younger were most likely to aspire to teaching. At the elementary level, paraprofessionals were less likely to aspire if they had young children, no or low competence in non-English languages, and over 5 years experience in the district. The main reason for wanting to be a paraprofessional was wanting to teach. The CBEST was an important predictor of aspiration. The need for better literacy skills was not a perceived obstacle. Though grants and loans predicted aspiration, elementary respondents considered money an obstacle. Whites and African Americans were less likely to aspire than Mexican Americans, Central or South Americans, and Asian Americans. (Contains 32 bibliographic references.) (SM)

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Predicting the Aspiration to Teach for Paraprofessionals

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ABSTRACT

Predicting the Aspiration to Teach Among Paraprofessionals
By Candace Kelly, Southern Oregon University
April 28, 2000

The paraprofessionals who aspire to teach and pursue a college degree program represent a potential source of teachers qualified to work with Limited English Proficient students. Although they have been repeatedly recommended for recruitment into credentialing programs, there is little indication of progress in the recommended direction. In fact, there is sparse information on the paraprofessionals interested in and making an effort to become credentialed.

This study was based on data from the Los Angeles Unified School District (N = 5,296). It used maximum likelihood logistic regression analysis to identify characteristic elements predicting the aspiration to teach. Its purpose was to fill the paucity of research on factors that encourage and deter paraprofessionals from pursuing a credential.

The findings were, at both the elementary and junior/senior high level, that males, 26 or younger were more likely to aspire. Additionally, at the elementary level only, paraprofessionals were less likely to aspire if they had young children, no or low competence in a non-English language, and had been in the district for more than five years. Paraprofessionals were asked why they wanted to be a paraprofessional. The common response was that they "wanted to be a teacher". Furthermore, for both school levels, the CBEST was an important predictor of aspiration, and the need for better literacy skills was not a perceived obstacle. Even though grants and loans were predictors of aspiration, money was perceived as an obstacle to aspiration by elementary respondents. Examining the five ethnic categories individually, white and black respondents were less likely to aspire; Mexican Americans, Central or South Americans, and Asians were more likely to aspire. However, in the logistic regression algorithm using white Euro-American as the comparison group, none of the three linguistic minority groups were statistically more likely to aspire in the elementary model.

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University of California Linguistic Minority Research Institute.

Purpose of the Study

The purpose of this study was to fill the paucity of research on factors that encourage and deter paraprofessionals from pursuing a teaching credential. It is important to identify factors of teacher aspiration for two reasons. One reason is to improve recruitment programs in college degree programs, such as, for example, Upward Bound Programs. A second reason is to inform retention programs. By retention programs, I mean programs that provide support for minority students to stay in college degree programs, like for example, career ladder programs.

There were three sets of factors examined in this study. First, there were the professional characteristics such as years of experience in the district, dual language skills, and attitudes towards the profession. Second, there were personal characteristic such as sex, age, marital status, offspring, and race. Third, there were access factors. These included perceived obstacles, the provision of financial aid, and the CBEST. Identification of these factors informs research in the areas of access and diversity in the teaching profession specific to paraprofessionals.

Background of the Problem

In the early 1950's paraprofessionals were hired expressly because they were residents of the same communities and had the same language background as the students they served. They were the first teacher-assistants and were hired under the Education Professions Development Act (EPDA) which addressed multicultural education at its earliest stages. Instituted a decade before the 1964 Civil Rights Amendments, the EPDA was linked to "the improvement and equalization of educational opportunities for poor

children, while the spirit and the content of the programs was multiculturalism" (Davies, 1977, p. 13).

Multiculturalism and equalization of educational opportunities are not new issues to U.S. public schools. Lately they have become more pressing because segregation is occurring at a higher incidence today than at any other time in history (Orfield & Yun, 1999). This current period has been termed resegregation and is marked by an increase in Latinos and other minority groups in metropolitan or inner city schools. For instance 68% are Latino in Los Angeles schools, 51% in Miami/Dade, and 37% in New York. This increase in the number of Latinos and other minority students has not been matched by similar increases in the number of minority teachers.

Table 1. Total & Percentage of U.S. Public School Teachers by Race/Ethnicity, 1987-1994

	Am. Indian		Asian/Pacific Islander		Black, non-Hispanic		Hispanic		White, non-Hispanic		Total
Year	N	%	N	%	N	%	N	%	N	%	N
93-94	20,490	0.80	28,174	1.10	189,536	7.40	107,574	4.20	2,215,519	86.50	2,561,294
90-91	19,964	0.78	26,875	1.05	211,670	8.27	87,023	3.40	2,214,213	86.51	2,559,488
87-88	23,123	1.00	20,811	0.90	184,986	8.00	60,121	2.60	2,023,288	87.50	2,312,329

Source: Department of Education, NCES, Schools and Staffing in the United States, A Statistical Profile, 1990, 1993, & 1996. Totals for each race-ethnicity category were computed by multiplying the percentage by the total number of teachers.

Table 1 shows the percentages by race and ethnic category for public school teachers over a seven year span. The percentage of minority teachers taken together has been relatively stable, except for the Hispanic teachers, whose percentage increased 2%. For all minority categories together, the percentage grew by an abysmal 1% over this seven-year period (from 12.5% to 13.5%). This indicates that teachers of color most frequently are *not* visible in school settings nationwide. An increase of 1% does not match the pressing growth in minority students in U.S. schools.

Statement of the Problem

There are too few teachers who match the language and the background of the students they teach. For example, of teacher education students, as few as 5% of those familiar with another language considered themselves fluent (RATE study, Zimpher, 1989). Furthermore, the identification with former teachers since 1955 repeatedly has been shown as one of the most influential factors in the decision to teach (Lortie, 1975). Therefore, the lack of appropriate role models in urban schools is a considerable problem for minority students (Anderson, 1988; Haberman, 1989).

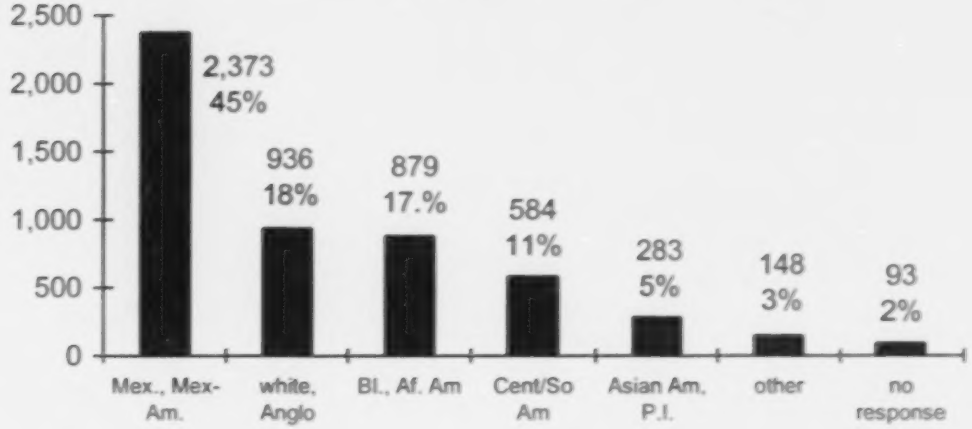
This teacher shortage is especially chronic in urban areas for specialty subject areas. For instance, in the Los Angeles Unified School District (LAUSD) 60% of the bilingual classes were taught by misassigned teachers (Stoddart, 1991). Paraprofessionals have been identified as a viable source of potential teachers (California Department of Education, 1991; Chinn & Wong, 1992; Crawford, 1995; Recruiting New Teachers, 1996). They are more resilient to teacher attrition and less susceptible to classroom shock, well documented among beginning teachers (Recruiting New Teachers, 1996). Furthermore, they are often minority, bilingual, and more willing to work in urban, minority impacted settings, while the majority of preservice teachers, about 90%, are not (Recruiting New Teachers, 1996). This compels further study of paraprofessionals and their aspiration to teach.

Data Collection

This study was a secondary analysis of data from a Paraprofessional Survey administered in 1992 by Macias and Lavadenz for the Latino Teacher Project at the University of Southern California. The survey was administered in the LAUSD and included 67

questions on background characteristics, education, training, and work experience. Approximately 18,000 surveys were distributed by U.S. mail; 5,296 or 29% were returned.

Figure I.
Frequency Distribution by Ethnicity or Race (N = 5,296)



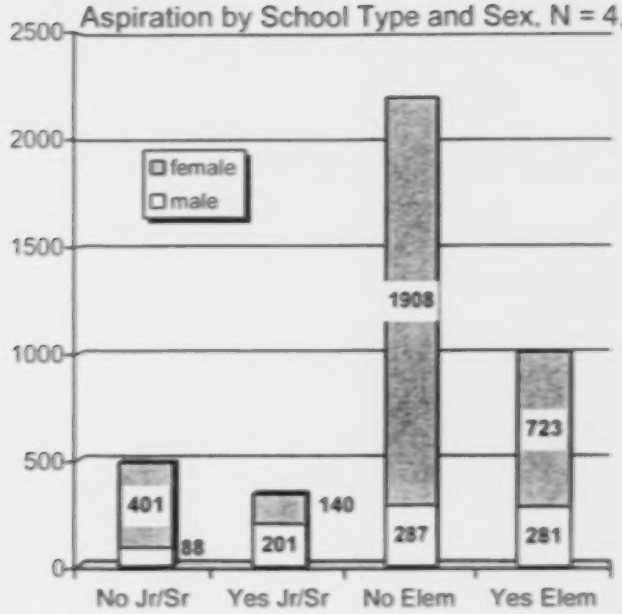
Sample

Respondents included 929 males (17.6%), 4,338 females (82%), and 26 undefined due to non-response (.5%). The age ranged from 22 to 78. Figure 1 shows ethnicity or race of the entire sample surveyed.

Defining Aspiration to Teach

The definition of aspiration was based on an extensive literature review of the California teaching credential requirements and persistence in college degree programs. I selected four items in the Paraprofessional Survey to define the aspiration to teach. They were (a) enrollment in a college degree program; (b) completion of a college level course in advanced mathematics with a grade C or better; (c) completion of a college level course in English composition with a grade C or better; and (d) the expressed aspiration to become a teacher. Aspirants were those who answered yes to *all* four items. Aspirants and non-aspirants are shown by school level and sex in Figure 2.

Figure 2.
Aspiration by School Type and Sex, N = 4,029



It is interesting to note the differences in aspiration between females and males. For the jr./sr. high level, Figure 2 shows that 88 out of 201 were *not* aspirants (30%). At the elementary level, males were closely divided (287 to 281). Females, on the other hand, typically were *not* aspirants. This was especially pronounced at the elementary level where 1,908 (73% of the elementary females) did *not* aspire and 723 (or 27%) did. This factor was tested for statistical significance, as were a number of other variables examined by the following methods of analysis.

Methodology

Logistic regression was the method of choice because the data in the Paraprofessional Survey was generally dichotomous, containing relatively few continuous or ordinal items. The analysis procedure followed the model building and refinement strategies described by Hosmer and Lemeshow (1989). This included univariate analyses to select the most significant variables and evaluate the theoretically important ones.

Logistic regression was used to estimate the probability of an event occurring for a nonlinear model with probabilities between zero and one. The analysis employed a maximum likelihood method to estimate model parameters by relating observed responses to predicted probabilities. Logistic regression has been described in principle as being analogous to linear regression (Hosmer & Lemeshow, 1989; Lottes, Adler, & DeMaris 1996; Menard, 1995) once the differences due to the parametric properties and associated assumptions are taken into account. For instance, the logistic regression distribution is S-shaped, representing a binomial distribution, not a normal distribution. Furthermore, the logistic regression procedure transforms the conditional mean by its natural log or logit. The transformation takes on the desirable properties of a linear regression model; it may be linear in the parameters and continuous. Having accounted for the differences, the principles that guide linear regression also guide logistic regression (Hosmer & Lemeshow, 1989). The findings from the elementary and the jr./sr. high models are presented next.

Findings from the Elementary School Model

The elementary model had a significant –2 log likelihood value of 1,837 with a difference in improvement of 352 for the model with only the constant. These values are displayed at the bottom of Table 2. The number of respondents in the final algorithm was 1,597.

Table 2. Computed Logistic Regression, Elementary Model

Variable	Estimated Coefficient	Estimated Standard Error	Coefficient Standard Error	Significance	Adjusted Odds Ratio
	Personal Characteristics				
age	-0.048	0.008	6.15	0.00	0.95
male (1) female (0)	0.330	0.136	2.93	0.02	1.39
children (1) no children (0)	-0.389	0.130	2.98	0.00	0.68
Black (1) otherwise (0)	0.012	0.264	0.04	0.96	1.01
Asian Am. (1) otherwise (0)	0.635	0.338	1.88	0.06	1.89
Mexican Am. (1) otherwise (0)	-0.379	0.221	1.72	0.09	0.68
Central So. Am. (1) otherwise (0)	-0.301	0.257	1.17	0.24	0.74
Other (1) otherwise (0)	0.277	0.391	0.71	0.48	1.32
	Issues in Access				
taken CBEST: yes (1) no (0)	0.384	0.131	2.93	0.00	1.47
loans: yes (1) no (0)	0.732	0.265	2.76	0.00	2.08
grants/schlrsp./Calgrants: yes (1) no (0)	0.579	0.156	3.71	0.00	1.78
not enough money: (1) otherwise (0)	0.507	0.126	4.01	0.00	1.66
literacy skills: (1) otherwise (0)	-0.717	0.181	3.97	0.00	0.49
	Professional Makeup				
love children (1) otherwise (0)	-0.510	0.115	4.42	0.00	0.60
work hours (1) otherwise (0)	-0.847	0.189	4.49	0.00	0.43
need a job (1) otherwise (0)	-1.020	0.281	3.63	0.00	0.36
low NEL: yes (1) no (0)	-0.840	0.239	3.52	0.00	0.43
medium NEL: yes (1) no (0)	-0.209	0.148	1.41	0.16	0.81
years with LAUSD	-0.357	0.139	2.58	0.01	0.70
constant	1.721	0.382	4.51	0.00	

-2 Log Likelihood = 1837.10 Model Chi-square = 351.60, df = 19

Table 2 displays all variables of the elementary school model; however, due to the restraints of this paper, I will limit the presentation to three of the more important variables.

Age—The log odds of aspiring was -.048 ($p < .01$) for older paraprofessionals when compared to younger paraprofessionals holding all other variable constant in the elementary model. The algorithm indicated that the log odds decreased by a factor of .95 for a one-unit change in the outcome variable. This means that the odds of aspiring were 95% lower for older paraprofessionals when compared to younger paraprofessionals.

Male (1) female (0) —The log odds of aspiring was .33 for males when compared to females holding all other variables constant. The data indicated that the log odds

increased by a factor of 1.39, or the odds of aspiring were 139% higher for males when compared to females.

Ethnicity—None of the estimated coefficients was significant, indicating that ethnic group differences were attributable to chance alone when compared to whites, the comparison group. Ethnicity was significant to the model, but whether the significant relationship was between Mexicans and Asian Americans or between Mexicans and blacks was not evident. The algorithm indicated ethnicity was significant, but to which groups this applied was not indicated.

Findings from the Junior/Senior High School Model

The jr./sr. high model had a significant -2 log likelihood value of 574 with a difference in improvement of 113 for the model with only the constant. There were 516 respondents selected in the model. This data is shown at the bottom of Table 3.

Table 3. Computed Logistic Regression, Jr./Sr. High Model

Variable	Estimated Coefficient	Estimated Standard Error	Coeffic. Standard Error	Signifi cance	Adjusted Odds Ratio
constant	1.47	0.36	4.20	0.00	
Personal Characteristics					
age	-0.07	0.01	7.00	.00	0.93
male (1) female (0)	0.91	0.22	4.29	0.00	2.48
Issues in Access					
taken CBEST: yes (1) no (0)	.48	.23	2.09	0.04	1.62
literacy skills: (1) otherwise (0)	-0.76	.37	2.05	0.04	0.47
-2 Log Likelihood = 573.97					
Model Chi-square = 113, df = 4					

Four variables were significant predictors of aspiration in the jr./sr. high model. Due to time constraints, I will review the data for only one of the more important predictors, the CBEST.

CBEST—For the jr./sr. high model, the coefficient was .48 ($p < .05$), and the adjusted odds ratio was 1.62. Therefore, the odds of aspiration increased 162% for those who had taken the CBEST when compared to those who had not, holding all other variables constant.

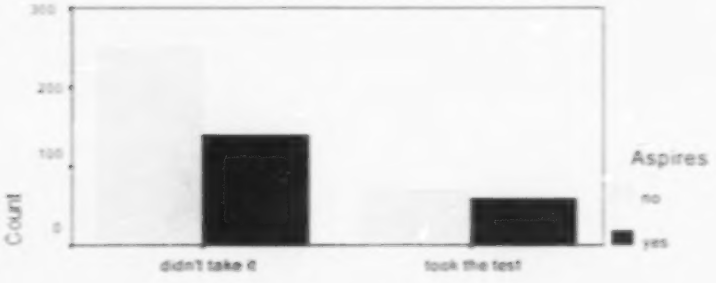
Discussion

An important question that guided this study was whether paraprofessionals are diversifying the teacher work force? Another question concerned the characteristic elements that predict aspiration among paraprofessionals. Specifically, what can college programs do to better identify and retain them in college programs? The aim here is to inform policy on improving access for paraprofessionals in teacher credentialing, and thereby improve diversity in the teacher work force, especially critical to inner city schools.

Are Paraprofessionals Diversifying the Teacher Work Force?

One highly contentious issue concerning diversity is the use of standardized tests as high stakes, entry and exit criteria in teacher credential programs. What the data showed in both models was that the odds of aspiring increased approximately one and a half times

Figure 3.
Aspires by CBEST, Junior/Senior Level (n = 516)



for those who took the CBEST compared to the odds of aspiring for those who did not take the CBEST. However, a closer examination of the data revealed a contentious problem. The majority of those who took the test did not aspire as shown in Figure 3.

In order to account for this phenomenon, it was posed that non-aspirants took the CBEST as a requirement to substitute teach while they attended college in other fields. However, this would apply to only 30% of those who had a BA required for substitute positions. This 30% did little to explain why so many respondents took the test and did not aspire. This would seem to suggest that the CBEST itself was a chief obstacle to aspiration. A larger proportion of those who took the test opted out of teaching as a career presumably because of the test itself. This may be speculative at best, based on data that provided little insight about the CBEST, e.g. we did not know the passage rates. However, this interpretation is in line with reported passage rates for the CBEST in California. For instance the proportion who did not pass as first time test takers was 47% for Latinos and 37% for blacks (Egelko, 1999). This 47% approximates the number of paraprofessionals in my study who took the test but did not aspire as shown in Figure 3. In fact, the data in Figure 3 indicate that the CBEST had a greater impact on this population compared to the California Latino population as a whole.

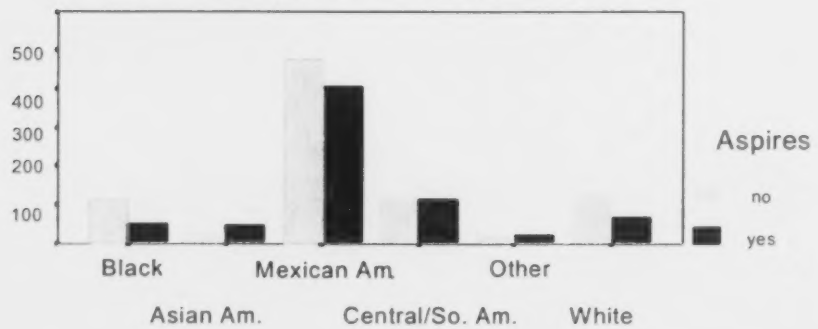
By implication this questions the usefulness of competency tests that are criticized for arbitrary cut-off scores (Riner & Jones, 1993) and for test bias. Bias is commonly argued on the basis of disproportionate passing rates for cultural and racial groups. (The reader is referred to McLevie, 1994; Zapata, 1989 for Hispanic teacher candidates; to Dupré, 1986 for Black teachers in education; and Chinn and Wong, 1992 for Asian/Pacific American teachers.) Although the CBEST has been described as effectively screening general academic aptitude, the margin of improvement due to the test may be too high a cost in comparison to the loss of representativeness in the teaching workforce (Tanner,

1995). Clearly teacher competency tests negatively affect minority representation in the teacher workforce, especially at the paraprofessional level.

To further determine minority representation, we now look to the findings on aspiration by ethnic group. The odds of aspiration were not significant for any minority group when compared to whites—and we know whites were not likely to aspire based on the natural log of the odds ratio (.-71). Figure 4 shows that all groups had more non-aspirants than aspirants, except for Asian American.

Figure 4

Aspires by Ethnicity, Elementary (n = 1,597)



The implication here is that in LAUSD, where an incredible proportion of minority students is schooled, few minorities who are paraprofessionals are working towards teaching positions. This depresses the number of potential minorities who could pursue teaching positions in LAUSD. It means few students find appropriate teacher role models. The lack of role models has been attributed to fewer students of color seeking a career in education, or even pursuing higher education at all (Anderson, 1988). It is faulted as an important factor perpetuating the under-education of minority students, particularly in urban schools, where the largest proportion attend school. In order to affect the proportion of

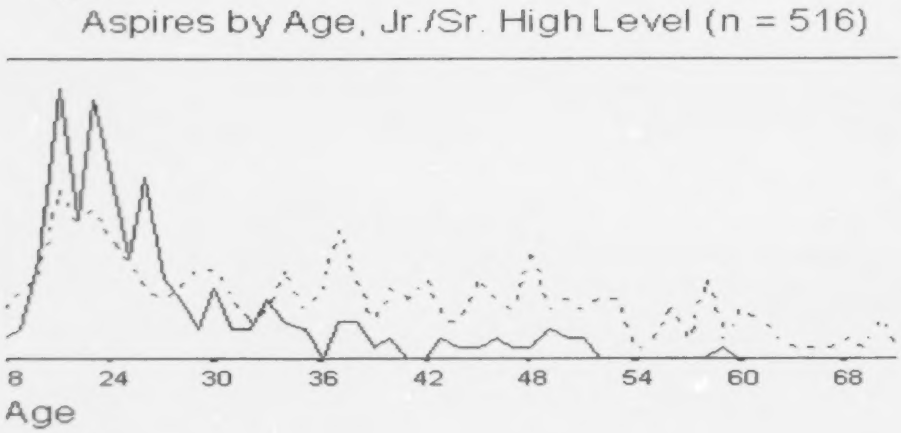
paraprofessionals who aspire, we need to be able to identify them. The next section addresses this aspect.

What factors predict aspiration to teach for paraprofessionals?

Educational relevance is derived from informing recruitment and retention programs about factors that predict aspiration for paraprofessionals. Age and sex were two such factors. The odds of males aspiring were 139% (248%) higher than the odds of females, holding all other values constant in the elementary (and jr./sr. high) model. Interestingly, this finding corroborates the research reporting traditional female roles are a barrier to aspiration to teach for some Latinas (Genzuk, Krashen, and Lavadenz, 1994). Therefore, recruitment programs should offer stronger recruitment mechanism aimed at female Latina paraprofessionals including career counseling.

Another finding was that paraprofessionals who aspired were more likely to be 26 years old or less. Figure 5 indicates that at age 27 aspirants decreased and non-aspirants increased. This provides evidence that college recruitment programs should target paraprofessionals in the early years where they are most plentiful, and increase support for those between the ages of 26 – 29 when the number of aspirants decline rather abruptly.

Figure 5



In conclusion, this study showed that few paraprofessionals aspire to become teachers. Their potential has not been tapped sufficiently to increase diversity in the teacher work force. The ethnicity data indicated paraprofessionals, for the most part, did not aspire and the CBEST functioned as a gatekeeper. Additional findings informed college recruitment and retention programs by identifying personal characteristics that significantly predicted aspiration, such as sex and age. Sex was a stronger factor with an adjusted odds ratio of 1.39 and 2.48 compared to age .95 and 93 (p <.01).

An aggressive agenda is needed to increase teacher diversity and to boost minority participation in higher education. Few paraprofessional role models in public schools negatively impact the number of minorities attending college. Less minorities attending college means less teachers to serve as role models. In order to affect this vicious cycle, paraprofessionals must be vigorously pursued to enroll in college degree programs. They are one of the most viable resources needed to increase diversity in the teacher workforce.

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